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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,851	10/06/2006	Jouni Kytomaa	59643.00669	7339

32294 7590 10/16/2008

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EXAMINER	
MITCHELL, DANIEL D	

ART UNIT	PAPER NUMBER
2419	

MAIL DATE	DELIVERY MODE
10/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,851	KYTOMAA ET AL.	
	Examiner	Art Unit	
	DANIEL MITCHELL	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *2/10/2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *2/10/2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/27/2007; 2/10/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 19, 20, 26, 27, 28, 29, 30, 31, 32, 34, 35, 39, 40, 41, 42, 43, and 45 recite limitations "adapted to" and "adapted for." Under MPEP 2106, page 2100-8, "language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim limitation. Appropriate action/correction should be made.

Claims 3, 20, and 36 require a period at the end of the claim. Appropriate action/correction should be made.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Bodnar (U.S. Patent No. 5,539,729), hereinafter referred as Bodnar.

Regarding claim 1, Bodnar discloses a method of queuing packets for processing, the method comprising the steps of: a. allocating each received packet to at least one arrival queue (**col. 4 lines 15-19** teaches a packet handler with a receiver buffer for receiving packets); b. placing each packet in the allocated queue if said queue

is not full, otherwise dropping said packet (**col. 7 lines 6-18** teaches that if a queue is overloaded the packet will be dropped, otherwise the packet will be processed; c. scheduling packets from the arrival queue to at least one transfer queue **col. 4 lines 45-52 teaches packets are polled on a regular basis to enter into a transfer queue)**; d. responsive to transfer of a packet to a transfer queue, generating an interrupt **col.4 lines 32-38** (teaches an interrupt is generated when a packet is moved into the receive buffer); e. responsive to receipt of an interrupt, allocating the packet to one of a plurality of processor queues **col. 4 lines 32-38** (teaches CDMA packets are moved into the interface 88 for processing or the interface 89 for the application processor 90; f. placing the packet in the allocated processor queue if said queue is not full, otherwise dropping said packet **col. 7 lines 6-18** (teaches if the queue is overloaded then packets will be dropped); and g. scheduling packets from the processor queues for processing **col. 5 lines 8-25** teaches scheduling of processing is based on the counters associated with the queue).

Regarding claim 2, Bodnar discloses wherein packets are received at an input to a plurality of devices (**col. 4 lines32-33** teaches a receive buffer that receives packets from a data fanout).

Regarding claim 3, Bodnar discloses wherein at least one device has a plurality of arrival queues (**fig. 1** discloses a plurality of arrival queues - packet handlers 49-55).

Regarding claim 4, Bodnar discloses wherein each arrival queue is associated with a traffic class, each packet being allocated to the at least one queue in accordance

with the traffic class of each packet (**fig. 4** teaches queues associated with a traffic class **element 88-89)**.

Regarding claim 5, Bodnar discloses wherein the traffic class is priority information embedded in the each packet (**col. 6 lines 64-67 and col. 7 lines 1-5** teach that a packet header is examined to determine priority).

Regarding claim 6, Bodnar discloses wherein at least one device comprises a plurality of transfer queues (**fig. 4** teaches a plurality of transfer queues **– element 88 and 89)**.

Regarding claim 7, Bodnar discloses. A method according to claim 1 wherein the number of transfer queues for each device is less than the number of arrival queues for each device (**fig. 1** teaches a packet handler as a transfer queue and plurality of arrival queues from the Digital Facility Interfaces, line units, and trunk units).

Regarding claim 8, Bodnar discloses wherein the scheduling of packets from the arrival queue to the transfer queue is dependent upon one or more of: the characteristics of the transfer queues (**col. 5 lines 8-23** teaches a counter associated with the transfer queues determines which packets will be processed).

Regarding claim 9, Bodnar discloses wherein the transfer queue comprises a device level transfer queue and a processor level transfer queue, wherein the device level transfer queue receives packets from the arrival queue, and the processor level transfer queue receives packets from the device level transfer queue **col. 4 lines 32-35** teaches packets are transmitted from a receive buffer to a transfer queue and **col. 5**

lines 57-67 and col. 6 lines 1-12 teaches removing packets from the low priority queue and transferring them to the high priority queue.

Regarding claim 10, Bodnar discloses wherein packets are transferred to the processor level transfer queue from the device level transfer queue whenever there is space in the processor level transfer queue **col. 5 lines 57-67 and col. 6 lines 12** teaches removing packets from the low priority queue and transferring them to the high priority queue.

Regarding claim 11, Bodnar discloses wherein packets are never dropped from the transfer queue **col. 5 lines 57-67 and col. 6 lines 12** maintains a balance among the queues without having to drop packets.

Regarding claim 12, Bodnar discloses wherein the processor queues are associated with different priorities **col. 3 lines 9-13** teaches multiple streams with priority levels.

Regarding claim 13, Bodnar discloses wherein the highest priority queue has the lowest drop probability and the lowest latency (**col. 6 lines 64-67 and col. 8 lines 1-18** teaches high priority packets are not dropped from the queue).

Regarding claim 14, Bodnar discloses wherein responsive to receipt of an interrupt from a device, a packet is removed from the transfer queue of the device and classified (**col. 4 lines 32-39** teaches that a packet is removed from a queue and processed in response to an interrupt being generated).

Regarding claim 15, Bodnar discloses wherein the classification is based on a determination of priority (**col. 4 lines 45-56** where classification is based on whether or not a packet is time critical or not time critical).

Regarding claim 16, Bodnar discloses wherein the packet is allocated to a processor queue in accordance with its classification (col. 4 lines 45-67 teaches time critical voice packets are place in queue 88 and non-time critical packets are placed in queue 89).

Regarding claim 17, Bodnar discloses wherein the packet is placed in the allocated processor queue if said queue is not full, otherwise the packet is dropped (**col. 7 lines 6-18** teaches if the queue is overloaded then packets will be dropped, otherwise packets will be processed).

Regarding claims 18-34, see similar rejection as claims 1-17.

Regarding claim 35, see similar rejection as claim 1.

Regarding claim 36, see similar rejection as claim 3.

Regarding claim 37, see similar rejection as claim 4.

Regarding claim 38, see similar rejection as claim 6.

Regarding claim 39, see similar rejection as claim 9.

Regarding claim 40, see similar rejection as claim 10.

Regarding claim 41, see similar rejection as claim 11.

Regarding claim 42, see similar rejection as claim 12.

Regarding claim 43, see similar rejection as claim 14.

Regarding claim 44, see similar rejection as claim 16.

Regarding claim 45, see similar rejection as claim 17.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL MITCHELL whose telephone number is (571)270-5307. The examiner can normally be reached on Monday - Friday 8:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shah G. Chirag can be reached on 571-272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. M./
Examiner, Art Unit 2419

/Chirag G Shah/

Supervisory Patent Examiner, Art Unit 2419